Claims:

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1. A method of delivering a selected gene to a muscle cell or tissue, said method comprising:

- (a) providing a recombinant adeno-associated virus (AAV) virion which comprises an AAV vector, said AAV vector comprising said selected gene operably linked to control elements capable of directing the *in vivo* transcription and translation of said selected gene; and
- 10 (b) introducing said recombinant AAV virion into said muscle cell or tissue.
 - 2. The method of claim 1, wherein said muscle cell or tissue is derived from skeletal muscle.
 - 3. The method of claim 1, wherein said muscle cell or tissue is derived from smooth muscle.
- 4. The method of claim 1, wherein said muscle 20 cell or tissue is derived from cardiac muscle.
 - 5. The method of claim 1, wherein said muscle cell is a skeletal myoblast.
- 25 6. The method of claim 1, wherein said muscle cell is a skeletal myocyte.
 - 7. The method of claim 1, wherein said muscle cell is a cardiomyocyte.
 - 8. The method of claim 1, wherein said recombinant AAV virion is introduced into said muscle cell in vivo.

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- 9. The method of claim 1, wherein said recombinant AAV virion is introduced into said muscle cell in vitro.
- 5 10. The method of claim 1, wherein said selected gene encodes a therapeutic protein.
 - 11. The method of claim 10, wherein said protein is erythropoietin.
- 12. A muscle cell or tissue transduced with a recombinant AAV virion which comprises an AAV vector, said AAV vector comprising a selected gene operably linked to control elements capable of directing the in vivo transcription and translation of said selected gene.
 - 13. The muscle cell of claim 12, wherein said cell is a skeletal myoblast.
- 20 14. The muscle cett of claim 12, wherein said cell is a skeletal myocyte.
 - 15. The muscle cell of claim 12, wherein said cell is a cardiomyocyte.
 - 16. The muscle cell of claim 12, wherein said selected gene encodes erythropoietin.
- inherited disease in a mammalian subject comprising introducing into a muscle cell or tissue of said subject a therapeutically effective amount of a pharmaceutical composition which comprises (a) a pharmaceutically acceptable excipient; and (b) recombinant AAV virions, wherein said recombinant AAV virions comprise an AAV

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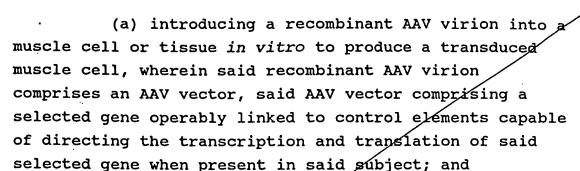
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vector, said AAV vector comprising a selected gene operably linked to control elements capable of directing the transcription and translation of said selected gene when present in said subject, wherein said introducing is done in vivo.

- 18. A method of treating an acquired or inherited disease in a mammalian subject comprising:
- (a) introducing a recombinant AAV virion into a muscle cell or tissue in vitro to produce a transduced muscle cell, wherein said recombinant AAV virion comprises an AAV vector, said AAV vector comprising a selected gene operably linked to control elements capable of directing the transcription and translation of said selected gene when present in said subject; and
 - (b) administering to said subject a therapeutically effective amount of a composition comprising a pharmaceutically acceptable excipient and the transduced muscle cells from step (a).
- 19. A method for delivering a therapeutically effective amount of a protein systemically to a mammalian subject comprising introducing into a muscle cell or tissue of said subject a pharmaceutical composition which comprises (a) a pharmaceutically acceptable excipient; and (b) recombinant AAV virions, wherein said recombinant AAV virions comprise an AAV vector, said AAV vector comprising a selected gene operably linked to control elements capable of directing the transcription and translation of said selected gene when present in said subject, wherein said introducing is done in vivo.
 - 20. A method for delivering a therapeutically effective amount of a protein systemically to a mammalian subject comprising:



(b) administering to said subject a therapeutically effective amount of a composition comprising a pharmaceutically acceptable excipient and the transduced muscle cells from step (a).

21. An adeno-associated virus (AAV) vector comprising a gene encoding human erythropoietin operably linked to control elements capable of directing the in vivo transcription and translation of said gene.

22. A recombinant adeno-associated virus (AAV) virion which comprises the AAV vector of claim 19.

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